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ABSTRACT

Addressing the issue of community satisfaction as a viable extension to the search for social indicators, the following hypotheses were tested: (1) community satisfaction is a multidimensional variable; (2) satisfaction with community services is a municipality-oriented phenomenon that will vary according to size of place of residence, i.e., small city, village, or open country; (3) the assessment of community satisfaction is not dependent on objective economic, demographic, or social status indicators. Data used to assess dimensionality, applicability, and correlates of community satisfaction, were derived from Putnam County, Illinois via a 1971 area probability sample survey which provided responses from 1,166 heads of households on 15 community satisfaction items. Results of factor analyzation revealed four relatively independent dimensions-satisfaction with public, medical, commercial, and educational services. While significant differences of means were found for the medical and commercial dimension of community satisfaction among the three residential strata, an analysis-of-covariance model revealed a similar pattern of relationship between the objective indicators and each of the four dimensions of community satisfaction, indicating the need to develop social indicators based on individualized subjective evaluations of environment. (Author/JC)

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Abstract

Social scientists are becoming increasingly aware of the need to develop a system of social indicators to directly measure conditions and changes in society. A recurrent interest in community satisfaction may prove to be a valuable contribution to the social indicator movement, by attempting to measure the subjective assessment of an environmental situation. Data from the Rural Industrial Development Project were utilized first to assess the dimensionality of community satisfaction, secondly, the applicability of community satisfaction in a rural setting, and thirdly, the correlates of community satisfaction. The results of factor analyzing a 15 item community satisfaction scale revealed four, relatively independent dimensions: satisfaction with medical services, public services, commercial services, and educational services. While significant differences of means were found for the medical and commercial dimension of community satisfaction among the three residential strata, an analysis-of-covariance model revealed a similar pattern of relationship between the objective indicators and each of the four dimensions of community satisfaction. Further analysis of the explanatory power of these objective indicators proved them to be wanting. The results of this study point to the need of developing social indicators based on the subjective evaluation of individuals toward their perceived environment.

COMMUNITY SATISFACTION IN A RURAL SETTING: DIMENSIONALITY AND CORRELATES

Introduction

Social scientists are becoming increasingly aware of the need to develop a concerted, systematic approach to societal monitoring. The Constitutional mandate, "to promote the general welfare," is still a relatively undefinable concept, and points to the poignant challenge of quantifying social phenomena. The Report of the President's Commission on National Goals (1960) called for the systematic assessment of societal conditions in order that planning and coordination of future needs and goals could be implemented. The Report of the National Commission on Technology, Automation and Economic Progress (1966) stated that "we do not have, as yet, a continuous charting of social changes, and have been ill prepared...to determine needs, establish goals, and measure our performance. Lacking any systematic assessment, we have few criteria which allow us to test the effectiveness of present policies or weigh alternatives regarding future progress" (1966: 95). More recently, the Committee on Public Engineering Policy of the National Academy of Engineering (1973), in a report requested by the National Science Foundation, reasserted the high priority need for development of social and organizational indicators.

To meet this challenge, a wide-ranging search is currently underway to develop better means by which social phenomena can be judged. Economists have been extending measures of the gross national product to reflect social and environmental costs and improvements (Juster, 1972).

Social scientists have been attempting to develop a system of social indicators to directly measure conditions and changes in society. Such terms as "social indicator" (Bauer, 1966), "social accounts" (Mondale, 1969), "social statistics" (Gross, 1966), and "social reporting of social change" (Duncan, 1969; Bell, 1969), reflect the efforts presently being expended in the field of social quantification. Since the publication of Social Indicators in 1966, which studied the unintended consequences of the space program on American society, there has been a growing interest in monitoring the impact of economic and social progress in our society. Further progress was made in Sheldon and Moore's Indicators of Social Change (1968), a compendium of essays by social scientists who sought to identify the constituent features of structural changes in American society. This volume attempted to delineate past, present, and future trends in terms of explicit, normative criteria.

A more recent contribution to the discussion of measuring social change is The Human Meaning of Social Change, edited by Campbell and Converse (1972). The authors view this volume as a companion piece to Sheldon and Moore's publication but explicitly focus on the social-psychological aspects of social change. Campbell and Converse express a feeling of discontent with purely objective indicators in any system of social accounting. Rather, they seek to emphasize the importance of the subjective dimension and are highly critical of those who view the quality of life as a simple function of material wealth or status. "The QOL (Quality of Life) must be in the eye of the beholder and it is only through an evaluation of the experience of life as our people

perceive it that we will understand the human meaning of the great social and institutional changes which dramatize our time" (1970: 2). While not discounting the importance of objective data, these authors call for the development of social indicators based on both objective and subjective inputs.

Community Satisfaction as a Social Indicator

One area of research that is beginning to draw some attention as a viable social indicator deals with the concept of community satisfaction. The importance of measuring this particular social phenomenon serves to fulfill two basic criteria set forth by Campbell and Converse (1972). First, a truly valid social indicator must be seen as a function of the objective condition coupled with the subjective assessment toward those conditions, and secondly, multiple measures or indicators are needed to describe this social situation. Viewed from this perspective, measures of community satisfaction may prove to be a valuable contribution toward the development of multi-faceted social indicators. The assessment of this component of the quality of life in one's community from a time-series perspective would supplement objective indicators and facilitate inferences regarding future change, particularly with respect to improving local service delivery systems. Discrepancies between objective conditions based on economic and demographic indicators and evaluation of the conditions of life as perceived by individuals may render a more balanced reckoning of the meaning of social and economic progress. Furthermore, satisfaction with the myriad aspects of community services may also reveal the multi-dimensional nature of any social accounting system.

As promising as this approach may appear to be, few substantive investigations have been made in the area of community satisfaction. Davies (1945) was the first to develop a scale to rate the degree of satisfaction held by residents of a village trade center toward their community. The results of his study led Davies to conclude that community satisfaction was unrelated to sex or age, moderately related to intelligence, but positively associated with size of village. Jesser (1967) constructed a community satisfaction index based on Davies' scale to study the levels of satisfaction among professionals in rural areas. He found that "social-helping" professionals had lower levels of community satisfaction than "technical-helping" professionals. The size of the community, degree of social participation, and the number of residential moves were positively associated with community satisfaction, while the impact of income, education, sex, age, and place of birth was not significant. A notable advance in assessing a scale of community satisfaction was made by Johnson and Knop (1970) who factor analyzed a composite Davies and Jesser scale and found it to be a multidimensional variable. On the basis of their findings, Johnson and Knop suggested that urban areas will offer certain advantages in employment, medical, and commercial services, whereas rural communities facilitate gemeinschaft-like attributes. Other areas of research in community have included the effects of status inconsistency (Bauman, 1968), the social-psychological aspects of migration (Schulze, et al., 1963), and the relationship between individual and residential effects on community evaluation (Durand and Eckart, 1973).

By far the most ambitious undertaking in the field of community satisfaction is the ongoing study being conducted by Marans and Rodgers (1972) at the University of Michigan's Institute for Social Research. Building on Campbell and Converse's discussion of social indicators, Marans and Rodgers present a conceptual model of community satisfaction whereby objective attributes of the environment are linked to the subjective experiences of individuals in that environment. Satisfaction with a particular environment is seen to be dependent on an assessment of two fundamental attributes of the environment: the manner in which the attributes are perceived, and the standard or reference against which the attribute is judged. Perception of the environment and the objective environment per se are not necessarily equivalent. To test for systematic biases in the assessment of perceived environmental attributes, the authors introduce a set of variables referred to as "person characteristics" suggesting that variables such as age, income, or race may have an effect on the evaluation of the environment. Capitalizing on the insights of previous research, Marans and Rodgers argue for a model of community satisfaction that incorporates multiple determinants concommitant with the various levels of residential environment: community, macro-neighborhood, micro-neighborhood, and individual dwelling.

The results of their analyses reveal that person characteristics have an extremely modest effect on community satisfaction, independent of the respondent's assessment of community attributes. Specifically, community satisfaction is strongly influenced by the respondent's assessment of such community attributes as public schools, climate,

streets, police-community relations, parks, and local taxes. While the size of the community of residence was shown to be related to community satisfaction, it did not significantly increment the explanatory power of the set of variables referred to as the "assessment of perceived environmental attributes." Extending this methodological framework to the assessment of satisfaction at the macro- and micro-neighborhood level, the authors found a similar pattern of relationships among the elements in their model. In essence, satisfaction with a particular environmental domain is primarily dependent on the assessments of the pertinent attributes of that particular life domain. Person characteristics add a small amount of explanatory power, while objective characteristics appear to be entirely mediated by assessment of specific community attributes. In sum, objective indicators, in and of themselves, proved to be inadequate indicators of satisfaction in the three residential settings examined.

The purpose of this paper is to extend the discussion of the quantification of community satisfaction to small, incorporated cities and unincorporated rural areas. The first area of investigation deals with the dimensionality of community satisfaction. It is our hypothesis that community satisfaction is a multidimensional variable. The second stage of analysis will focus on the applicability of community satisfaction in a rural setting. Because the availability of certain community services diminishes with size, and may not be offered at all in rural, unincorporated areas, the interpretability of community satisfaction scales may prove to be problematic in extremely rural areas. An attempt will be made to detect residential

contectual effects influencing community satisfaction such that markedly different relationships may exist in different population strata. Therefore, our second hypothesis states that satisfaction with community services is a municipally-oriented phenomenon that will vary according to size of place of residence, i.e., small city, village, open country. The last segment of our analysis focuses on the correlates of community satisfaction. Following the lead of previous research in the field of social indicators, assessment of community services will be viewed from a predominantly subjective stance. Our third hypothesis states that the assessment of community satisfaction is not dependent on objective economic, demographic, or social status indicators.

Data and Method

The data used in this study were collected in Putnam County, and segments of three continguous counties (Bureau, Marshall, and LaSalle) in north-central Illinois by the Rural Industrial Development Project whose interest in monitoring this area was prompted by the location and development of a highly capitalized steel mill in Putnam County. Jones-Laughlin Steel Corporation announced their development plans in April, 1965 and by December, 1967 were in production with an initial labor force of approximately 700 which grew to 1,000 plus by 1971.

Putnam County was 100 percent rural in 1960 with no village larger than 1,000 population. While neighboring counties did contain urban places, the entire area was heavily dependent upon agriculture and agri-business for economic livelihood (Summers, et al., 1969).

Although industrial development had an effect on some demographic, economic, and social conditions of the area, it did not affect dramatically its essentially rural and small town character (Summers, 1973; Beck, Dotson, and Summers, 1973; Clemente, 1973; Clemente and Summers, 1973).

Area probability sample surveys of heads of households were conducted in 1966, 1967, and again in 1971. The initial sample from 1966 was reinterviewed in 1967 and 1971 as a panel. In 1971 a new probability sample was selected for interview which permitted inferences to household heads after the area had undergone five years of industrial development. For purposes of the present analysis, only those respondents from the newly selected 1971 sample (N=1166) are considered.

An interview was conducted with each head of household covering a wide range of topics which included fifteen community satisfaction items constructed by the staff of the Rural Industrial Development Project. Respondents indicated their degree of satisfaction with each of the specified local community services on a five-point rating scale, 1-5, ranging from extreme dissatisfaction to extreme satisfaction. Previous research in the area of community satisfaction has been inconclusive in seeking to establish a relationship between sundry objective indicators and levels of community satisfaction. This study will attempt to incorporate a number of socioeconomic and demographic variables in order to comprehensively assess their importance. Place of residence was coded into one of three categories: cities (populations of 4,000 to 7,000), small towns (incorporated but populations of less than 4,000), and open country areas (unincorporated territory).

Findings

The results of our analysis will be presented in three sections. First, we will consider the extent of multi-dimensionality of reported satisfaction. Second, we will examine the effect place of residence has on level of satisfaction. Finally, we will report the correlates of community satisfaction.

Dimensionality of Community Satisfaction

The first phase of our analysis follows from Johnson and Knop's (1970) study which found community satisfaction to be a multi-dimensional construct. The "structure" or dimensionality of a set of items drawn from the same conceptual domain usually is examined through factor analysis. Therefore, the item inter-correlations shown in Table 1 were factor analyzed using the Principal Components extraction procedure and four factors submitted to varimax rotation.

Table 1 about here

The factor analysis of intercorrelations clearly reveals four distinct clusters of local community services. Satisfaction with hospital-medical facilities (item 10), medical doctors (item 12), and dentists (item 14) load extremely high on Factor I. It is readily apparent that satisfaction with medical personnel and facilities emerges as one fundamental dimension in community assessment which we shall call the Medical Service factor. Factor II is comprised of a wider range of items, having safety and public service as the main referent. Satisfaction with streets and/or roads (item 1) and the community's water supply (item 5, belong in the public works sector while fire protection (item 4) and police protextion (item 6) are public safety

items. On the basis of these factor loadings it would appear reasonable to consider the underlying factor to be Public Service.

Satisfaction with elementary school (item 2) and high school (item 3) load extremely high on Factor III, the Educational dimension. Factor IV appears to tap the Commercial Services of the community: shopping facilities (item 7), recreational facilities (item 8), job opportunities (item 13), and educational services for the physically and mentally handicapped (item 15). It is interesting to note that services for the handicapped (item 15) does not load with any appreciable magnitude on the educational dimension, Factor III (factor loading of .064), nor on medical services, Factor I (.198). It is not unrealistic to see many services for the less seriously handicapped as falling more in the category of job training (commercial services) than mere institutional care (medical or educational services).

Table 2 about here

The two items that connote something of an affective dimension to community satisfaction, neighborliness (item 9) and churches (item 11) have modest loadings on the first three factors but no affective dimension emerged from the scale items. For this reason, these two items were deleted from any further analysis. On the basis of the results shown in Table 2, four scale scores were constructed reflecting satisfaction with medical, public, educational and commercial services. Each of these four scales represents a simple summation only of those previously mentioned items which loaded heavily on one of the four Factors (factor loadings of .500 or higher).

Table 3 gives the inter-correlations for these four scales of community satisfaction along with their means, standard deviations, and alpha coefficients (Cronbach, 1951). As can be seen from the correlation matrix, these four scales are not very highly correlated even though the total variance for those items specified is used, not the factor weights of all 15 items as listed in Table 2. Cronbach's alpha coefficients range between .714 and .774 for these four scales which indicates that even though the number of items in each scale are four or less, the reliability of these scales is still sufficiently high. These four dimensions to community satisfaction will serve as our dependent variables in the analysis that is to follow.

Table 3 about here

One should be very clear about the meaning attached to these clusters of community services. They indicate a rather strong tendency among residents in these rural communities to express a similar degree of satisfaction with services included within a cluster (or Factor) and for these expressions of sentiment to be independent of feelings about services included in other clusters. Thus, if a citizen were quite pleased with elementary schools, it is likely a similar sentiment would be reported with respect to the high schools in the community. Further, these expressions would be relatively independent of that person's views on the quality of streets, shopping facilities, medical services, or employment opportunities.

Why expressions of satisfaction with community services should be grouped in this way is a point of considerable interest. The observed clusters may be reflective of some cognitive tendencies

intrinsic to the psychological make-up of the citizens. Perhaps, it reflects a culturally imposed ordering of experience such that structures of sentiment are shared by members of the community. It is also possible that the structure of satisfaction with local community services is determined largely by the administrative structure of the community. In most instances, primary and secondary schools are considered as complementary parts of the community's educational sector. Public works along with police and fire protection are administratively related but distinct from the educational, medical, and commercial domain. Hospital facilities, physicians and dentists are perceived as being in the realm of the medical profession which is an entity uniquely distinct from other aspects of community services. Lastly, the commercial enterprises or the so-called business interests of the community, clearly comprise a natural cohesiveness which the members of the community can easily identify.

Place of Residence and Level of Satisfaction

Before examining the correlates of community satisfaction it will be instructive to examine the possibility that level of satisfaction is a function of place of residence when the latter is ordered by size of place and viewed as a surrogate for availability of services. Certainly the limited availability of some services in unincorporated towns and the open country may produce considerable differences in levels of satisfaction. Were this to occur further examination of correlates of satisfaction should proceed with an awareness there may be effects of place of residence. The effect of place of residence can be ascertained by a one-way analysis of variance for each of the four satisfaction scales. The results of such an analysis are shown in Table 4.

Table 4 about here

In two of the four tests for effects of place of residence on level of satisfaction the results are statistically significant: Medical and Commercial satisfaction. The other two, Public and Educational satisfaction appear to be unaffected by place of residence. In the two instances of significant effects the ordering of levels of satisfaction across strata is somewhat of a conundrum. In the case of the Medical score, city dwellers have the highest score (11.39) followed by the open country strata (10.63) with small town residents being the most dissatisfied (9.16). The only similarity of this order and that for Commercial scores is the fact that small town residents are the most dissatisfied (11.71). On this dimension open country residents are the most satisfied (13.15) while city dwellers have an intermediate mean score (12.75).

These results only partially support the belief that level of satisfaction with community services is related to size of place of residence. They give no support to the argument that community satisfaction increases as a simple linear function of the availability of services indexed here by population size of place of residence. A word of caution is in order at this point. The variance of size of place of residence is quite restricted in these data; the largest city represented is under 10,000 population. Obviously, these data do not permit inferences to the relationship between availability of services and satisfaction over the full range of both variables; some services available in metropolitan areas are absent in these communities.

However, a sizeable proportion of the U.S. population resides in places under 10,000 population and for that reason alone interest in the relation of service to satisfaction in this restricted range is justified.

Correlates of Community Satisfaction: Controlling for Place of Residence

Table 5 gives the correlation matrix, means and standard deviations of the 11 independent variables whose impact on the four scales of community satisfaction will be assessed by a series of analysis of covariance tests. Sex was dichotomized into 0 for males and 1 for females. Thus, the mean is expressed in terms of a proportion, with 21% of our sample being female. Age, expressed in number of years has a mean of 49.9, which is reflective of the fact that the data represent a survey of heads of households. Education and residential duration are expressed in total number of years. Marital status was dichotomized into 0 for the non-married and 1 for the married. Household size and organizational affiliations were summed into total numbers for each variable. Inter-regional moves represents the total number of moves the respondent (residing in the survey area) made in and out of the survey area since 1960. Occupation is measured in terms of Duncan's Socioeconomic Index for those respondents who were in the labor force. Income, expressed in dollars, was based on total earned income. The last variable, property value, representing the value of the respondent's house and land, was coded in the following manner: 0 = < $5000, 1 = 5000 - 7499, 2 = 7500 - 9999, 3 = 10,000 - 12,499, 4 = 12,500 - 14,999, 5 = 15,000 - 17,499, 6 = 17,500 - 19,999, 7 = 20,000 - 24,999, 8 = 25,000 - 34,999, 9 = 35,000 - 49,999, 10 = > 50,000. This question was not asked if the respondent had more than 10 acres or if the property was zoned commercial.

Tables 6 through 9 show the results of an analysis of covariance[1] for each of the four community satisfaction scales, controlling for residential location. A brief explanation of the data in these tables seems appropriate. The first column of each table lists the 11 independent variables used in each separate analysis of covariance test. The test for interaction reveals whether or not the nature of the relationship within each nominal category is the same, i.e., a test of significance of difference between the three slopes. If interaction is present, then pooling is not justified because the relationship between the independent variable and the particular type of community satisfaction differs according to the category of the control variable.

[1]The method of analysis will be an analysis of covariance using dummy variable regression (Gujarati, 1970). Depending on where the respondent lives, that respective strata will be given a value of 1, if the respondent lives in that stratum and 0 otherwise. Following Gujarati:

$$Y_i = a_0 + a_1D_1 + a_2D_2 + a_3X_i + a_4(D_1X_i) + a_5(D_2X_i) + u_i$$

where D_1 = 1 if the respondent lives in the category of city, 0 otherwise;

D_2 = 1 if the respondent lives in the category of small town, 0 otherwise;

a_0 = intercept for open country category (the omitted group);

a_1 = differential slope for the city category;

a_2 = differential slope for the small town category;

a_3 = slope of Y with respect to X for the omitted category;

a_4 = differential slope coefficient of Y with respect to X for city category;

a_5 = differential slope coefficient of Y with respect to X for small town category;

u_i = error term, $E(u_i) = 0$.

In the case of analysis of covariance, interaction appears as a difference among the within-category slopes. The dummy variable formulation of interaction takes the form of $a_4(D_1X_i)$ and $a_5(D_2X_i)$. If the coefficients a_4 or a_5 depart significantly from zero, we infer that there is interaction present in the population and pooling of the three strata levels is not legitimate. In such cases the nature of the relationship within each category of stratum is not the same and separate analyses must be made for each category.

The results of these tests for interaction are shown in Column 2. The third column shows the significance level of the differences between residential categories, controlling for each independent variable in column 1 (provided that interaction is not present). This third column will reflect the findings of our one-way analysis of variance in Table 4 except that the differences between groups will be based on the adjusted mean. The zero-order correlation is given in column 4, with the partial correlation coefficient controlling for the effects of the nominal residential category, given in column 5. Should significant interaction effects be present, a separate analysis will be given for each of the three residential categories following the analysis of covariance table.

Medical Services: Turning to Table 6, using satisfaction with medical services as our dependent variable, we see that significant interaction occurs in two of the eleven analyses of covariance: inter-regional moves and property value. For the remaining nine non-significant interaction tests, while the differences among the three residential strata continue to be highly significant, the partial correlations are extremely weak and most do not reach the level of significance. Only age ($r_{xy.A} = .13$) and the number of organizational affiliations ($r_{xy.A} = .18$) show an even modest degree of association. The separate analyses for the two instances of interaction reveal that while the regression equation for each group will not have the same slope, it does not alter the relationship within each category between satisfaction with medical services and the 2 independent variables.

Table 6 about here

Public Services: In Table 7, satisfaction with public services, only property value produces significant interaction but separate analyses show no significant association with the dependent variable. The differences among the three strata groups remains non-significant while age ($r_{xy.A}$= .28) exerts the strongest correlation.

Table 7 about here

Commercial Services: A similarly weak pattern is found in Table 8 using satisfaction with commercial services as the dependent variable. The three interaction effects for occupation, organizational affiliations and property value do not reveal any demonstrable variation by strata level when analyzed separately. The group differences that were found significant in Table 4 continue to hold for each of the independent variables with nonsignificant interaction effects, and only age ($r_{xy.A}$= .26) approaches even a modest level of association.

Table 8 about here

Educational Services: The last series of analysis-of-covariance tests, using satisfaction with educational services as the dependent variable, appear in Table 9. The partial correlations are, for the most part, the weakest of the four tables, with only organizational affiliations showing any apparent relationship ($r_{xy.A}$= .15). It is of some surprise to note that education, while producing a significant interaction, shows no relationship with satisfaction of educational services within any residential category.

Table 9 about here

In sum, Tables 6 through 9 dramatize the inability of objective measures of demographic, economic, and status attributes in explaining the subjective assessment of four dimensions of community satisfaction. No partial correlation emerges as high as .300, while most objective indicators show virtually no association. Table 10 gives the joint explanatory power of all 11 of our objective attributes, by entering them into a multivariate model and ascertaining what proportion of the variance in each of the four indices of community satisfaction by residential location is thereby accounted for. The small amount of explained variance for medical services is essentially produced by age and organizational affiliations as was already seen in Table 6. While satisfaction with safety and public services has the highest amount of explained variance, this can be attributed to the strongest partial in any of the tables (Table 7: $r_{xy.A} = .28$, for age). Similarly, age alone could account for nearly all of the explained variance in satisfaction with commercial services (Table 8: $r_{xy.A} = .26$). Lastly, satisfaction with educational services proves to be virtually uncorrelated with all of the objective measures and the total proportion of explained variance is less than 4%.

Table 10 about here

Summary and Implications

The purpose of this discussion was to address itself to the issue of community satisfaction as a viable extension to the quest for social indicators. The concept of community satisfaction was seen to be a multi-dimensional variable. A factor analysis of a 15 item scale relating to satisfaction with community services resulted in four

separate dimensions: satisfaction with medical services, safety and public services, commercial services, and educational services. Due to the predominantly rural orientation of the data, it was hypothesized that the applicability of community satisfaction scales to three residential strata, ranging from small municipalities to unincorporated rural areas, would produce demonstrable interaction effects. Significant differences of means were found in the medical and commercial dimension of community satisfaction by residential strata, while the remaining two dimensions, safety and public services, and educational services proved to be non-significant. However, on the basis of a series of 44 analysis-of-covariance tests (11 for each of 4 measures of community satisfaction), the relationship between community satisfaction and objective indicators within each of the residential strata was found to be essentially the same. In those few instances where significantly different within-group relationships did occur (8 out of the 44 tests), separate analyses by strata revealed identical associations between the independent and dependent variable. Finally, an assessment of the explanatory power of the objective indicators of community satisfaction proved to be grossly inadequate. The assessment of community satisfaction was seen to be a subjective perception which does not appear to be dependent on socioeconomic or demographic data. Hence, hypothesis 1, the multidimensionality of community satisfaction, and hypothesis 3, the relatively weak association between objective indicators and community satisfaction are accepted. But hypothesis 2, the linear relationship between availability of services, as indexed by place of residence, and community services, was rejected.

The results of this study lend strong support to the need of developing social indicators based on the subjective attitudes of individuals toward conditions in a particular environment. The use of objective information to measure the social conditions of human existence appears to be fraught with difficulties. Campbell and Converse (1972) have argued for the import of subjective feelings versus total dependence on objective conditions. The improved monitoring of social conditions calls for the development of far more descriptive measurement which is more social and less economic or demographic than most social science research to date. Normative considerations often constrain the development of meaningful social indicators. Indeed, investigators have documented unexpected high levels of satisfaction within areas that were, for all intents and purposes, disreputable slum areas (Suttles, 1968; Gans, 1962). Subjective indicators will undoubtedly force social scientists to assess the role of values, attitudes and expectations that serve as intervening filters between the person's environment and the ultimate evaluation of that perceived environment.

Table 1. Inter-Correlation of Community Satisfaction Items with Means and Standard Deviations. (N=1166)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Streets and/or Roads		.125	.119	.395	.397	.391	.091	.109	.072	.056	.032	-.062	.098	-.053	.085
2. Elementary School		---	.631	.133	.113	.195	.069	.127	.184	.022	.166	-.020	.054	.115	.126
3. High School			---	.235	.151	.213	.115	.162	.181	.078	.135	.031	.102	.119	.104
4. Fire Protection				---	.307	.326	.108	.034	.127	.158	.243	.116	.155	.131	.115
5. Water Supply					---	.305	.130	.115	.106	.080	.164	.009	.160	.080	.119
6. Police Protection						---	.119	.136	.236	.186	.239	.070	.175	.093	.114
7. Shopping Facilities							---	.395	.114	.228	.136	.188	.377	.200	.337
8. Recreational Facilities								---	.115	.108	.064	.030	.120	.152	.207
9. Neighborliness									---	.105	.202	.094	.039	.128	.008
10. Hospital-Medical Facilities										---	.273	.564	.166	.344	.262
11. Churches											---	.293	.077	.294	.152
12. Medical Doctor												---	.137	.389	.194
13. Job Opportunities													---	.140	.162
14. Dentist														---	.241
15. Educational Services for Physically or Mentally Handicapped															---
$\bar{X}$	3.44	3.80	3.75	4.00	3.81	3.68	3.43	3.20	3.92	3.51	4.01	3.56	2.75	3.68	3.34
SD	1.02	.72	.75	.62	.84	.88	.99	1.07	.71	1.05	.56	1.05	1.07	.88	.92

Table 2

Factor Analysis of Community Satisfaction Items

	Items	Factor I	Factor II	Factor III	Factor IV
1.	Streets and/or Roads	-.190	.582	.028	.181
2.	Elementary Schools	-.013	.060	.872	.089
3.	High School	.017	.126	.836	.133
4.	Fire Protection	.206	.675	.129	-.032
5.	Water Supply	.010	.665	.041	.138
6.	Police Protection	.150	.652	.206	.061
7.	Shopping Facilities	.162	.083	.016	.716
8.	Recreational Facilities	-.056	.006	.188	.704
9.	Neighborliness	.214	.215	.377	-.043
10.	Hospital-Medical Facilities	.730	.105	-.048	.208
11.	Churches	.378	.268	.222	-.072
12.	Medical Doctors	.809	-.040	-.069	.104
13.	Job Opportunities	.107	.218	-.085	.590
14.	Dentist	.642	-.057	.156	.208
15.	Educational Services for Physically or Mentally Handicapped	.198	.051	.064	.512
	Variance Explained	14.7%	12.7%	11.9%	11.4%
			Total Variance Explained		50.7%

Table 3

Community Satisfaction Scales: Inter-correlations.
Means, Standard Deviations and Cronbach's Alpha Coefficients (N=1166)

	Medical	Public	Commercial	Educational
Medical	—	.122	.299	.061
Public		—	.313	.238
Commercial			—	.167
Educational				—
$\bar{X}$	10.57	15.07	12.49	7.67
SD	2.51	2.33	2.66	1.26
No. of Items	3	4	4	2
Cronbach's Alpha Coefficients	.714	.735	.758	.774

Table 4

One-Way Analysis of Variance: Degree of Satisfaction with specific community service by residential location*

Type of Service	City	Small Town	Open Country	Grand Mean	F-Ratio	Sig. Level
Medical	11.39	9.16	10.63	10.58	71.64	.001
Public	15.03	15.14	15.06	15.07	0.32	NS
Commercial	12.75	11.71	13.15	12.49	27.68	.001
Educational	7.71	7.65	7.59	7.67	0.60	NS
(N)	(618)	(365)	(183)	(1166)		

* Each cell entry under residential location represents the mean of the particular service.

Table 5

Zero-Order Correlation Matrix, Means and Standard Deviations of Independent Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Sex	—	.295	-.131	-.643	-.330	.187	-.101	-.096	-.135	-.357	-.144
2. Age		—	-.409	-.354	-.469	.454	-.325	-.061	-.005	-.423	-.099
3. Education			—	.097	.196	-.245	.141	.434	.262	.423	.280
4. Marital Status				—	.480	-.194	.130	.083	.153	.350	.227
5. Household Size					—	-.262	.140	.053	.161	.397	.105
6. Residential Duration						—	-.226	-.094	-.004	-.229	-.032
7. Inter-Region Moves							—	.003	-.020	.065	.049
8. Occupation								—	.262	.296	.291
9. Organizational Affiliations									—	.154	.187
10. Income										—	.261
11. Property Value											—
$\bar{X}$	.21	49.90	11.16	.75	3.11	30.26	.73	38.30	1.77	6161.9	5.09
SD	.41	17.73	3.21	.43	1.80	16.34	1.43	23.23	1.57	5776.5	2.41

Table 6

Analysis of Covariance Dependent Variable:
Satisfaction with Medical Services, controlling for residential location

(1) Independent Variable	(2) Interaction Effects	(3) Differences Between Groups(Sig. level)	(4) Zero-Order Correlations	(5) Partial Correlation Coefficient($r_{xy.A}$)
Sex	NS	.001	-.059	-.05
Age	NS	.001	.110	.13***
Education	NS	.001	.088	.03
Marital Status	NS	.001	.012	.01
Household Size	NS	.001	.009	.02
Residential Duration	NS	.001	.033	.06*
Inter-Regional Moves	.05		-.091	
Occupation	NS	.001	.106	.06*
Org. Affiliations	NS	.001	.187	.18***
Income	NS	.001	.028	-.00
Property Value	.01		.068	

Separate Analyses for Interaction

Independent Variable	City $r_{xy.A}$	Small Town $r_{xy.A}$	Open Country $r_{xy.A}$
Inter-Regional Moves	-.09***	-.09***	-.08***
Property Values	.00	.03	.02

* p <.05
** p <.01
*** p <.001

0030

Table 7

Analysis of Covariance Dependent Variable:

Satisfaction with Public Services controlling for residential location

Independent Variable	Interaction Effects	Differences between Groups(Sig. level)	Zero-Order Correlations	Partial Correlation Coefficients($r_{xy.A}$)
Sex	NS	NS	.075	.07**
Age	NS	NS	.282	.28**
Education	NS	NS	-.025	-.03
Marital Status	NS	NS	-.068	-.07*
Household Size	NS	NS	-.093	-.09***
Residential Duration	NS	NS	-.099	.16***
Inter-Regional Moves	NS	NS	-.170	-.13***
Occupation	NS	NS	.076	.08**
Org. Affiliations	NS	NS	.018	.02
Income	NS	NS	-.084	-.09**
Property Value	.001		.013	

Separate Analysis for Interaction

Independent Variable	City	Small Town	Open Country
	$r_{xy.A}$	$r_{xy.A}$	$r_{xy.A}$
Property Value	.03	.03	.02

* P <.05

** P <.01

*** P <.001

0031

Table 8

Analysis of Covariance Dependent Variable:

Satisfaction with Commercial Services, controlling for residential location

Independent Variable	Interaction Effects	Differences between Groups(Sig. level)	Zero-Order Correlation	Partial Correlation Coefficient($r_{xy.A}$)
Sex	NS	.001	.017	.03
Age	NS	.001	.243	.26***
Education	NS	.001	-.066	-.10***
Marital Status	NS	.001	-.076	-.09***
Household Size	NS	.001	-.146	-.147***
Residential Duration	NS	.001	.079	.106***
Inter-Regional Moves	NS	.001	-.120	-.105***
Occupation	.001		-.002	
Org. Affiliations	.05		.020	
Income	NS	.001	-.141	-.15***
Property Value	.001		.066	

Separate Analyses for Interaction

Independent Variable	City	Small Town	Open Country
	$r_{xy.A}$	$r_{xy.A}$	$r_{xy.A}$
Occupation	-.02	-.00	.02
Org. Affiliations	.04	.05	.06
Property Value	.09***	.06**	.09**

* P <.05
** P <.01
*** P <.001

0032

Table 9

Analysis of Covariance Dependent Variable:
Satisfaction with Educational Services, controlling for residential location

Independent Variable	Interaction Effects	Differences between Groups(Sig. level)	Zero-Order Correlation	Partial Correlation Coefficient($r_{xy.A}$)
Sex	NS	NS	-.044	-.05
Age	NS	NS	-.081	-.08**
Education	.01		.030	
Marital Status	NS	NS	-.003	-.00
Household Size	NS	NS	-.001	.00
Residential Duration	NS	NS	.033	.05
Inter-Regional Moves	NS	NS	-.075	-.04
Occupation	NS	NS	.088	.08*
Org. Affiliation	NS	NS	.148	.15**
Income	NS	NS	.023	.02
Property Value	.01		.032	

Separate Analyses for Interaction

Independent Variable	City	Small Town	Open Country
	$r_{xy.A}$	$r_{xy.A}$	$r_{xy.A}$
Education	.00	.00	.00
Property Value	.02	.02	.02

* P <.05
** P <.01
*** P <.001

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Table 10

Proportion of the variance explained using all 11 objective indicators of community satisfaction

Type of Service	Residential Location		
	City	Small Town	Open Country
Medical	5.8%	6.7%	7.6%
Public	10.4%	10.3%	10.3%
Commercial	8.1%	8.1%	8.5%
Educational	3.6%	3.7%	3.6%

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